

CLAIMS:

- SUB A10
1. A motion vector estimation method, comprising the steps of:
carrying out a block-based motion vector estimation process (BME) that
involves comparing a plurality of candidate vectors to determine block-based motion vectors;
determining at least a most frequently occurring block-based motion vector
5 (MFMV);
carrying out a global motion vector estimation process (GME) using at least the
most frequently occurring block-based motion vector (MFMV) to obtain a global motion
vector (GMV); and
applying the global motion vector (GMV) as a candidate vector to the block-
10 based motion vector estimation process (BME).
2. A method as claimed in claim 1, wherein the determining step includes making
a selection among block-based motion vectors having a corresponding motion error below a
given motion error threshold.
- 15 3. A method as claimed in claim 1, wherein the determining step includes making
a selection among block-based motion vectors estimated for blocks having a difference
between maximum and minimum pixel values above a given activity threshold.
- 20 4. A method as claimed in claim 1, wherein both the most frequently occurring
block-based motion vector (MFMV) and a second-most frequently occurring block-based
motion vector (SMFMV) are determined and used in the global motion vector estimation
process (GME).

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5. A method as claimed in claim 1, wherein said global motion vector estimation process (GME) includes the steps of:

comparing, on a block basis, a plurality of candidate vectors including the most frequently occurring block-based motion vector (MFMV) to obtain best vectors determined per block;

outputting a most-frequently occurring best vector determined per block as the global motion vector (GMV).

6. A motion vector estimation device, comprising:

block-based motion vector estimation means (BME) for determining block-based motion vectors based on a comparison of a plurality of candidate vectors;

means for determining at least a most frequently occurring block-based motion vector (MFMV, SMFMV);

means (GME) for carrying out a global motion vector estimation process using at least the most frequently occurring block-based motion vector (MFMV, SMFMV) to obtain a global motion vector; and

means for applying the global motion vector (GMV) as a candidate vector to the block-based motion vector estimation means (BME).

7. A motion-compensated picture signal processing apparatus, comprising:

a motion vector estimation device as claimed in claim 6 for generating motion vectors; and

a motion-compensated processor (MCP) for processing a picture signal in dependence on the motion vectors.

8. A picture display apparatus, comprising:

a motion-compensated picture signal processing apparatus as claimed in claim 7 to obtain a processed picture signal; and

a display device for displaying the processed picture signal.